

# KEY\_Practice04\_Lists\_Intro

December 10, 2021

## 1 Practice with lists!

**Remember:** \* Lists can be used to group different values together - it's just a collection of things.

\* You can make a list in Python by putting different things in a box of brackets [] separated by commas.

First, make a list of pets including cat, dog, turtle, and any other pets you want to include. Store it in the variable `pets`:

```
[1]: # command Python to make a list of pets including dog, cat, and turtle. Store it in pets
pets = ['dog', 'cat', 'turtle']
# command Python to print pets
print(pets)
```

```
['dog', 'cat', 'turtle']
```

How many things are in your `pets` list?

```
[2]: # command Python to print the length of pets
print(len(pets))
```

3

Add another pet (snake) to your `pets` list. (Note that you know 2 ways to do this! As a challenge, try to remember both ways!) Print out the list and find the length of the list.

```
[3]: # command Python to add 'snake' to your pets list
# (challenge: find 2 ways to do this)
pets.append('snake')
# command Python to print pets
print(pets)
# command Python to find the length of pets
print(len(pets))
```

```
['dog', 'cat', 'turtle', 'snake']
```

4

Now let's make a list of numbers. Make a list of at least 5 numbers:

```
[4]: # command Python to make a list of at least 5 numbers  
numbers = [0,1,2,3,4]  
# command Python to print the list of numbers  
print(numbers)  
# command Python to print the length of numbers  
print(len(numbers))
```

```
[0, 1, 2, 3, 4]  
5
```

Add your two lists (pets and numbers) together:

```
[5]: # command python to add pets and numbers  
pets + numbers
```

```
[5]: ['dog', 'cat', 'turtle', 'snake', 0, 1, 2, 3, 4]
```

Assign the value 3.14 to the variable pi:

```
[ ]: # assign the value 3.14 to the variable pi  
pi = 3.14
```

Add the variable pi to the list numbers:

```
[7]: # add pi to numbers  
numbers.append(pi)  
# print numbers  
print(numbers)  
# print the length of numbers  
print(len(numbers))
```

```
[0, 1, 2, 3, 4, 3.14]  
6
```

What happens if you add pi to numbers again?

```
[8]: # add pi to numbers again  
numbers.append(pi)  
# print numbers  
print(numbers)  
# print the length of numbers  
print(len(numbers))
```

```
[0, 1, 2, 3, 4, 3.14, 3.14]  
7
```

Add two more numbers to your numbers list at the same time:

```
[9]: # print your numbers list  
print(numbers)
```

```
# print the length of your numbers list
print(len(numbers))
# add 2 numbers (your choice) to your numbers list
numbers = numbers + [1,2]
# print your numbers list
print(numbers)
# print the length of numbers
print(len(numbers))
```

```
[0, 1, 2, 3, 4, 3.14, 3.14]
```

```
7
```

```
[0, 1, 2, 3, 4, 3.14, 3.14, 1, 2]
```

```
9
```

**Challenge:** Duplicate your list of pets so that it contains 2 of every pet in your list (ex. 2 dogs, 2 cats, etc.). *Hint:* use the \* operator.

```
[10]: # duplicate list of pets
pets*2
```

```
[10]: ['dog', 'cat', 'turtle', 'snake', 'dog', 'cat', 'turtle', 'snake']
```

Nice job! You just practiced: \* Making a list ([]) \* Finding the length of a list (len) \* Adding lists together (+) \* Adding things to a list (.append)